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REMARKS

Claims 1 to 20 are pending in the present application with claims 1, 4 and 5 being amended and claims 15 to 20 being withdrawn from consideration pursuant to a restriction requirement. There is support in the specification, claims and drawings as originally filed for the amended claims.

Reconsideration of the Examiner's decisions and reexamination of this application are respectfully requested.

Elections/Restrictions:

Applicants affirm the election of claims 1 to 14 for prosecution in this application.

Specification:

The title of the invention has been changed along the lines suggested by the Examiner.

Drawings:

The acceptability of the formal drawings is acknowledged.

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The §112 rejections:

The Examiner has rejected claim 6 under 35 USC §112, second paragraph, in that claim 6 allegedly claims that the first and second layers of the aluminum bond pad are in contact with the barrier layer.

Claim 6 recites that “one of the first and second layers of the aluminum bond pad is direct in contact with the barrier layer” [emphasis added]. Claim 6 does not recite that both of the first and second layers of the aluminum bond pad are in contact with the barrier layer. Accordingly, claim 6 fully complies with 35 USC §112, second paragraph, and thus the rejection of claim 6 under 35 USC §112, second paragraph, is erroneous and should be withdrawn.

The §102 rejections:

Claims 1, 3, 4, 7-10 and 12 have been rejected by the Examiner under 35 USC §102(b) as being anticipated by Applicant Admitted Prior Art (hereinafter AAPA).

With respect to claim 1, the Examiner considers the barrier layer of the prior art (i.e., layers 30, 130 of Figures 1 and 2) to include also a composite layer such as that claimed by Applicants. In fact, the composite layer of Applicants' invention is in addition to the barrier layer of the prior art. Applicants have attempted to clarify this point by now reciting that the composite layer is thicker than the barrier layer. This feature is clearly shown in Figure 4. While the prior art does indicate that the barrier layer can comprise multiple layers as Applicants have described at paragraph 0034 of their specification, there is no disclosure of the composite layer being thicker than the barrier layer. Accordingly, AAPA cannot anticipate Applicants' claim 1.

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Inasmuch as claims 3, 4, 7-10 and 12 depend, directly or indirectly, from claim 1, and since claim 1 is believed to be allowable, then claims 3, 4, 7-10 and 12 are believed to be allowable as well.

In addition, claims 4 and 8 are believed to be independently patentable. Claim 4 has been amended to clarify that while the composite layer is within the aluminum bond pad, it is also spaced from the barrier layer. This reads on the embodiments in Figures 5 and 6 of Applicants' drawings. The barrier layer in AAPA, even if it contains multiple layers as Applicants have described at paragraph 0034 of their specification, always remains in contact with the copper wiring level and there is no disclosure that the multiple layers (if any) of the barrier layer are separated so as to form a composite layer within the aluminum bonding pad and spaced from the barrier layer as claimed by Applicants. Accordingly, AAPA cannot anticipate Applicants' claim 4.

Claim 8 recites the thickness of the barrier layer which, by itself, is known from AAPA. Claim 8, however, depends from claim 1 and thus includes all of the limitations of claim 1. So, if the barrier layer is 500-1000 angstroms, the barrier layer would also include the multiple layers as described at paragraph 0034 of Applicants' specification (since that is the disclosure of AAPA) and thus cannot include the composite layer which claims additional layers. That is, AAPA does not disclose a barrier layer (which may have multiple layers) having a thickness of 500-1000 angstroms and in addition the composite layer claimed by Applicants. Accordingly, claim 8 is not anticipated by AAPA.

The §103 rejections:

I. Claims 2 and 14 have been rejected by the Examiner under 35 USC §103(a) as being unpatentable over AAPA and further in view of Merchant et al. U.S. Patent 6,410,986 (hereafter "Merchant").

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Inasmuch as claims 2 and 14 depend from claim 1, and since claim 1 is believed to be allowable, then claims 2 and 14 should be allowable as well.

In addition, claim 2 is believed to be independently patentable. The alternating layers recited in claim 2 are inserted for the purpose of providing a "robust interface to protect the underlying copper wiring" (specification, paragraph 0036) during probing or testing. The AAPA teaches a conventional barrier layer but does not teach a composite layer having a robust interface to protect the underlying copper wiring. Merchant merely discloses multiple layers to eliminate unwanted diffusion of aluminum. Thus, if a person skilled in the art were looking for multiple layers to provide a robust interface to protect the underlying copper wiring, that person would not look to Merchant since Merchant is directed to solving a different problem. Accordingly, it is submitted that AAPA and Merchant cannot render obvious Applicants' claim 2.

II. Claim 5 has been rejected by the Examiner under 35 USC §103(a) as being unpatentable over AAPA and further in view of Costrini et al. U.S. Patent 6,187,680 (hereafter "Costrini").

Inasmuch as claim 5 depends from claim 1, and since claim 1 is believed to be allowable, then claim 5 is believed to be allowable as well.

In addition, claim 5 is believed to be independently patentable. Claim 5 has been amended to clarify that the first and second layers are first and second layers of aluminum. This is the embodiment shown in Figures 5 and 6 of Applicants' drawings. AAPA does not teach an aluminum pad comprising two layers. The aluminum stack of Costrini does not contemplate an aluminum pad comprising two layers of aluminum with the composite layer interposed between. Rather, Costrini contemplates an aluminum stack where aluminum is only one of the layers. Accordingly, AAPA and Costrini cannot render obvious Applicants' claim 5.

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III. Claims 11 and 13 have been rejected by the Examiner under 35 USC §103(a) as being unpatentable over AAPA and further in view of Besser et al. U.S. Patent 6,239,494 (hereafter Besser).

Inasmuch as claims 11 and 13 depend from claim 1, and since claim 1 is believed to be allowable, then claims 11 and 13 are believed to be allowable. No independent ground of patentability is asserted for claims 11 and 13 at this time.

Allowable subject matter:

It is noted that claim 6 was only rejected under 35 USC §112, second paragraph. As Applicants stated earlier, the foregoing rejection of claim 6 is believed to be erroneous. Then, with no outstanding ground of rejection, claim 6 is deemed to be allowable.

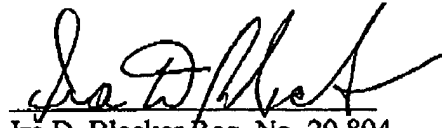
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Summary:

In view of all of the preceding remarks, it is submitted that all of claims 1 to 14 are in condition for allowance. If the Examiner finds this application deficient in any respect, the Examiner is invited to telephone the undersigned at the Examiner's earliest convenience to resolve such deficiency.

Respectfully Submitted,
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